AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 77-115 (cancelled)

Claim 116 (currently amended): A method of performing visual correction in a patient by implanting an intraocular lens, which at least partly compensates for the aberrations of the eye, comprising the steps of:

removing the natural lens from the eye;

measuring the aberrations of the eye not comprising the natural lens by using a wavefront sensor;

providing an intraocular lens that is capable of reducing at least one aberration term as found by the wavefront sensing; and

implanting the intraocular lens into the eye of the patient.

Claim 117 (currently amended): A method according to claim 116, wherein the intraocular lens is provided by selection from a kit of intraocular lenses which includes a plurality of intraocular lenses with different capacity to correct said at least one aberration term within each diopter.

Claim 118 (currently amended): A method according to claim 116, wherein the lens is provided by designing a lens that is capable of reducing at least one aberration term resulting from the wavefront sensing of the ~~aphakic~~ eye after the natural lens is removed.

Claim 119 (new): A method of performing visual correction in a patient by implanting an intraocular lens, which at least partly compensates for the aberrations of the eye, comprising the steps of:

(i) characterizing at least one surface of a cornea as a mathematical model;

(ii) calculating a spherical aberration of the cornea by employing said mathematical model;

(iii) modeling an intraocular lens having a spherical surface and an aspheric surface, the spherical surface having a radius, and the aspheric surface having a radius, a conic constant and at least one non-zero aspheric polynomial constant;

(iv) selecting a power of the intraocular lens, wherein the radius of the spherical surface and the radius of the aspheric surface determine the power of the intraocular lens; and

(v) selecting a spherical aberration of the intraocular lens to offset the spherical aberration of the cornea, wherein the conic constant and the at least one aspheric polynomial constant of the aspheric surface determine the spherical aberration of the intraocular lens.

Claim 120 (new): The method of claim 119, wherein the sum of the spherical aberration of the cornea and the sum of the spherical aberration of the intraocular lens is sufficiently reduced.

Claim 121 (new): The method of claim 119, wherein the sum of the spherical aberration of the cornea and the sum of the spherical aberration of the intraocular lens is closer to zero than the spherical aberration of the cornea alone.

Claim 122 (new): The method of claim 119, wherein the aspheric surface is an anterior surface of the intraocular lens, and the spherical surface is a posterior surface of the intraocular lens.

Claim 123 (new): The method of claim 119, wherein the aspheric surface is an anterior surface of the intraocular lens, and the spherical surface is a posterior surface of the intraocular lens.

Claim 124 (new): The method of claim 119, wherein the spherical aberration of the intraocular lens is adjusted by changing the values of the conic constant and at least one aspheric polynomial constant of the aspheric surface, without changing the values of the radii of the spherical and aspheric surfaces.

Claim 125 (new): The method of claim 119,
wherein the cornea is an average cornea having a mean radius and a mean shape; and
wherein the sum of the spherical aberration of the average cornea and the spherical aberration of the intraocular lens is roughly zero.

Claim 126 (new): The method of claim 119,
wherein the cornea is for a particular patient; and
wherein the sum of the spherical aberration for the particular patient cornea and the spherical aberration of the intraocular lens is roughly zero.

Claim 127 (new): The method of claim 119,
wherein the cornea is for a particular patient; and
wherein the spherical aberration of the intraocular lens is adjustable in discrete increments by selecting the intraocular lens from a predetermined kit of lenses, with each lens in the predetermined kit of lenses having the same power but having different amounts of spherical aberration.

Claim 128 (new): The method of claim 127, wherein each lens in the predetermined kit of lenses has a spherical surface having the same radius, and has an aspherical surface having the same radius but having different conic constants and at least one different aspheric polynomial constant.

Claim 129 (new): The method of claim 119, wherein the intraocular lens is biconvex.

Claim 130 (new): The method of claim 129, wherein the radius of the spherical surface is essentially equal to the radius of the aspherical surface.